ABSTRACT OF THE DISCLOSURE

[52] An arrangement and method for reliably finding the wave form extrema of interference signals produced by a quadrature phase shift interferometer (QPSI) takes advantage of the quadrature property of I and Q signals. The zero-crossing points in the I and Q signals are determined. Peak detection is performed for peaks and valleys in the Q signal in close proximity to the zero-crossing points in the I signal, and for peaks and valleys in the I signal in close proximity to the zero-crossing points in the Q signal. These represent the maximum and minimum points of the I and Q signals. From these points, intensity envelopes are created and QPSI phase wrapping is performed to determine the phase angle and ultimately, out-of-plane displacement may be determined.